

**Station DC Power Connections
using
Anderson Powerpole®
Connectors**

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Ham Station Power Connections

- 110 VAC power connections
 - Standard 110 AC power cord & Plug
 - Wall warts plugging into 110VAC outlet
 - Low voltage AC out from wall wart
 - Low voltage DC out from wall wart
 - Most of these are 12Volts DC and use common DC power connectors
- 12 VDC power (13.84 VDC) connections

Ham Station Power Connections

- Most Modern Amateur Radio Transceivers of 100 Watts RF Power out or Less use 12 Volt DC Power Input Connections
- These Stations are Designed to Connect to External 12 Volt DC Power Supplies
- That Makes Them Easy Candidates for Using Some Form of Common DC Power Connections

Ham Station Power Connections

- Many Common Station Accessories such as Antenna Tuners, Audio Processors, Etc. Use 12 Volt DC Power from a Wall wart
- Again That Makes Them Easy Candidates for Using Some Form of Common DC Power Connections

Ham Station Power Connections

- So What is the Big Deal About Having Some Form of Common 12 Volt DC Power Connections

EMERGENCIES

Natural Disasters

Terrorist Acts

The Advantages of Common DC Power Connections

- Easy to Move Equipment
- Fast Setup of Power Connections
- Less Potential of Needed Equipment Sitting Unused Because of Problems Connecting it to Emergency DC Power Sources
- More Flexibility in an Emergency

Common DC Power Connector

What are Some Key Features Needed

- Reliable
- Easy to Use (Goof Proof Mating)
- \$ Low Cost in Low Volume Quantities
- Available to the Amateur Community
- Easy to Assemble (Crimp or Solder)
- Low Cost Crimp Tooling Available
- Support the Current Ranges Needed for Common Equipment

Anderson Powerpole® Connectors

- Anderson Power Products
Sterling MA 01564
- www.andersonpower.com
- Makers of a Wide Range of Power Connection Products

Anderson Powerpole® Connectors

- Genderless design
- Silver Plated Contacts
- Flat Wiping Contact System
- Polarized Housings
- 15, 30, 45, 75, 120 & 180 Amp Ratings
- Up to 600 Volts Continuous AC or DC
- Molded in Dovetails

Anderson Powerpole® Connectors

- The 15, 30 & 45 Amp Contacts and Housings Fully Mate With Each Other
- The Same Housing is Used for 15, 30 & 45 Amp Connectors
- The Contacts are Designed for Crimp Style Terminations But Can Be soldered

Anderson Powerpole® Connectors

- ARES, RACES “Standard” for Emergency DC Power Connections
- Have Any of You Actually Seen a Written Copy of the ARES or RACES “Standard”

It is a Defacto Standard

ARES Standard

This Shows the Correct
Assembly Configuration for a
Set of Anderson Powerpole
Connectors to the ARES and
RACES Standard

Mating Face View

Red on the Left, Hood Up

Black on the Right, Hood Up



Assembly of Anderson Powerpole® Connectors & Contacts

- There is an Enormous Amount of Information Out on the Internet About Anderson Powerpoles
 - Assembling the Connector Housings
 - Wire Gauges That can be Used
 - Conductor Strip Lengths
 - Crimping of the Contacts
 - Soldering of the Contacts
 - Loading the Contacts into the Housings

Anderson Powerpole [®] Connectors

- The Typical Sizes Used for Amateur Radio DC Power Connections Are
 - 15 Amp
 - 30 Amp
 - 45 Amp
 - 75 Amp

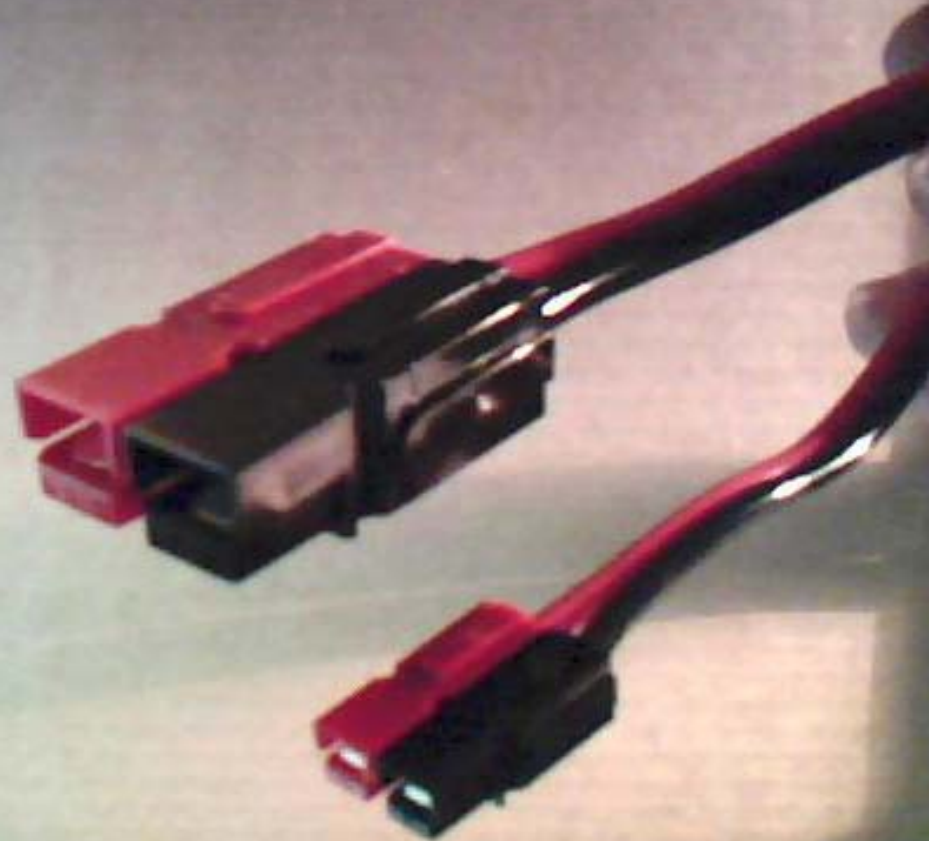
Connector Size

There is No Way That the Two Connector Body Sizes can be Mixed Up

75Amp Connectors Shown on the Left

15, 30 & 45Amp Connector Size is Shown on the Right

75Amp



15, 30 & 45Amp

15 Amp Powerpole® Connectors

- Common Housing Used for 15, 30 & 45 Amp Connectors
- 16 Gauge Conductors
- 18 Gauge Conductors
- 20 Gauge Conductors

30 Amp Powerpole® Connectors

- Common Housing Used for 15, 30 & 45 Amp Connectors
- 12 Gauge Conductors
- 14 Gauge Conductors
- 16 Gauge Conductors

45 Amp Powerpole® Connectors

- Common Housing Used for 15, 30 & 45 Amp Connectors
- 10 Gauge Conductors
- 12 Gauge Conductors
- 14 Gauge Conductors

75 Amp Powerpole® Connectors

- Different Size Housing Than That Used on the 15, 30 & 45 Amp Powerpoles
- **Will Not Mate With 15, 30 & 45 Amp Powerpole Connectors**
- Contacts are Available in Both High Detent and Low Detent Versions
 - Lower Insertion & Withdrawal Forces are Provided by the Low Detent Version Contacts

75 Amp Powerpole® Connectors

- Typical Uses for the 75 Amp Version
 - Power Connections to Emergency Battery Supplies
 - DC Power Connections to DC Power Splitters
 - 75 Amp Input with Several 45 Amp Outputs

75 Amp Powerpole® Connectors

- Housing Only Used for 75 Amp Connectors
- 6 Gauge Conductors
- 8 Gauge Conductors
- 10 Gauge Conductors Using a Bushing
- 12 Gauge Conductors Using a Bushing
- 14 Gauge Conductors Using a Bushing
- 16 Gauge Conductors Using a Bushing

RIGrunner

Shown is a West Mountain
RIGrunner DC Power
Distribution Strip

This Model has 1 Input and
8 Output Connectors

LED's for Indicating the
Input Voltage Level

Audible Voltage Level Alert

Standard ATC/ATO Style
Automotive Fuses

LED's Used for Blown Fuse
Indication



Power Cable

Standard Cigarette Lighter
Style Plug to 15Amp
Powerpole Connectors



Splitter

This is a 75Amp Powerpole
Input to 4 Powerpole
45Amp Connectors

Use from a Battery or
Battery Bank to Split into 4
Powerpole Connectors to
Feed RIGrunner's or other
Equipment

**NOT
FUSED**



Splitter

This is a 4-Way Splitter
made up of 45Amp
Powerpole Connectors

Anyone Can be the Input
and the Remaining 3
Connectors are then the
Output

**NOT
FUSED**



Caution

This Picture Shows What Can Happen if the two Connector Bodies are not Locked Together

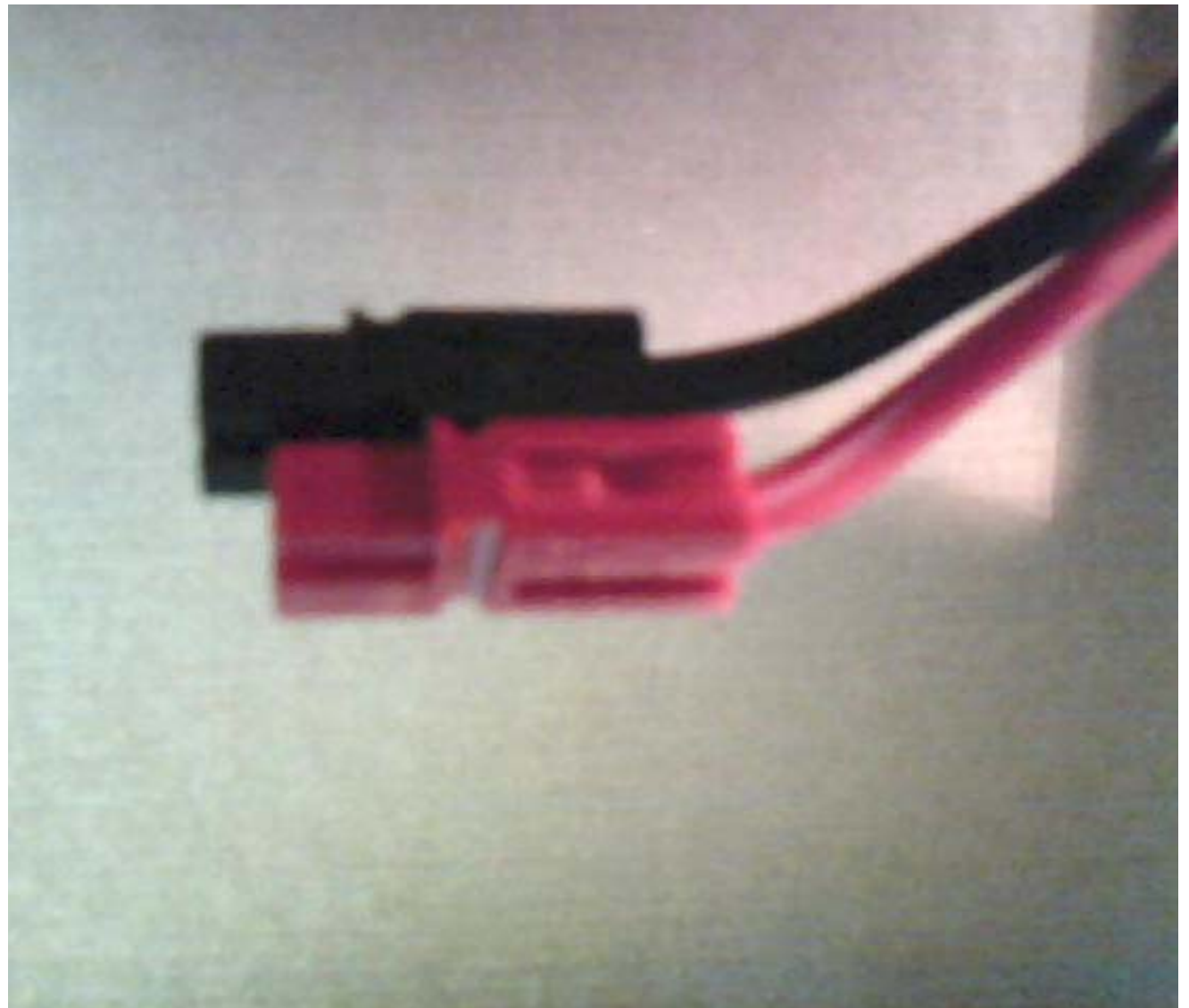
Some Suppliers will Provide Small Steel Roll Pins for this Purpose

DO NOT USE THEM
The Pin Could Fall Out and Short out Equipment

Superglue

RTV

Small Wood Dowel



THANK YOU

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